WHAT IS CLAIMED IS:

1. An inkjet recording head comprising:

a nozzle plate having nozzles for discharging ink droplets arranged in a row;

a plurality of pressure generating chambers communicating to the nozzles, the plurality of pressure generating chambers including a first pressure generating chamber and a second pressure generating chamber;

a diaphragm formed on one face of the pressure generating chamber;

a common ink chamber for supplying the ink via an ink supply passage to the plurality of pressure generating chambers; and

a piezoelectric element for displacing the diaphragm;

wherein the first pressure generating chamber is disposed on one side of the nozzles arranged in the row, and a second pressure generating chamber is disposed on the other side; and

the first and second pressure generating chambers are opposed to each other across the nozzles arranged in the row so that the central lines of the first and second pressure generating chambers are almost coincident.

2. The inkjet recording head according to claim 1,

wherein the central line between the adjacent nozzles and the central line between the first and second pressure

generating chambers are almost coincident.

3. The inkjet recording head according to claim 1, further comprising: a communication flow passage leading from the pressure generating chamber to the nozzles;

wherein the communication flow passage is narrower than the width of the pressure chamber.

4. The inkjet recording head according to claim 3, wherein a part of the communication flow passage is located outside a side wall face of the pressure generating chamber.

5. The inkjet recording head according to claim 1, wherein Cp is chosen to be about double Np, where the distance between the central lines of the first and second pressure generating chambers is Cp and the distance between the nozzles is Np.

6. The inkjet recording head according to claim 1,

wherein the piezoelectric element has a piezoelectric material and an electrically conductive material laminated alternately; and

one end of the piezoelectric element is fixed to at least one base board having electrical conductivity.

7. The inkjet recording head according to claim 6, wherein

the piezoelectric element is fixed to the base board and then divided like a comb.

8. The inkjet recording head according to claim 1, wherein the pressure generating chamber is formed of silicon by etching.

9. The inkjet recording head according to claim 3, wherein the rigidity of a partition wall between the adjacent nozzles and the communication flow passage is smaller than the rigidity of a partition wall between the adjacent pressure generating chambers.

10. The inkjet recording head according to claim 1,

wherein the inkjet recording head is a line scan head which has the nozzles arranged in the row and which is fixed while a printing is performed; and

the total number of nozzles N, the distance between nozzles Np (inch), the printing resolution Dp (dots/inch), and the width of the line scan head Wh (inch) satisfy following formula:

$$Wh < SIN\{ACOS(Np/Dp)\} \times \{(1/Dp) \times (N-1) + 1/Np\}.$$

11. An inkjet recording apparatus comprising:

a nozzle plate having nozzles for discharging ink droplets arranged in a row;

a plurality of pressure generating chambers communicating

to the nozzles, the plurality of pressure generating chambers including a first pressure generating chamber and a second pressure generating chamber;

a diaphragm formed on one face of the pressure generating chamber;

a common ink chamber for supplying the ink via an ink supply passage to the plurality of pressure generating chambers; and

a piezoelectric element for displacing the diaphragm;

wherein the first pressure generating chamber is disposed on one side of the nozzles arranged in the row, and a second pressure generating chamber is disposed on the other side; and

the first and second pressure generating chambers are opposed to each other across the nozzles arranged in the row so that the central lines of the first and second pressure generating chambers are almost coincident.

12. The inkjet recording apparatus according to claim 11,

wherein the central line between the adjacent nozzles and the central line between the first and second pressure generating chambers are almost coincident.

13. The inkjet recording apparatus according to claim 11, further comprising: a communication flow passage leading from the pressure generating chamber to the nozzles;

wherein the communication flow passage is narrower than the width of the pressure chamber.

14. The inkjet recording apparatus according to claim 13, wherein a part of the communication flow passage is located outside a side wall face of the pressure generating chamber.

15. The inkjet recording apparatus according to claim 11, wherein Cp is chosen to be about double Np, where the distance between the central lines of the first and second pressure generating chambers is Cp and the distance between the nozzles is Np.

16. The inkjet recording apparatus according to claim 11, wherein the piezoelectric element has a piezoelectric material and an electrically conductive material laminated alternately; and

one end of the piezoelectric element is fixed to at least one base board having electrical conductivity.

17. The inkjet recording apparatus according to claim 16, wherein the piezoelectric element is fixed to the base board and then divided like a comb.

18. The inkjet recording apparatus according to claim 11,

wherein the pressure generating chamber is formed of silicon by etching.

19. The inkjet recording apparatus according to claim 13, wherein the rigidity of a partition wall between the adjacent nozzles and the communication flow passage is smaller than the rigidity of a partition wall between the adjacent pressure generating chambers.

20. The inkjet recording apparatus according to claim 11, wherein the nozzle plate, the plurality of pressure generating chambers, the diaphragm, the common ink chamber and the piezoelectric element is accommodated by a line scan head that is fixed while a printing is performed; and

the total number of nozzles N, the distance between nozzles Np (inch), the printing resolution Dp (dots/inch), and the width of the line scan head Wh (inch) satisfy following formula:

$$Wh < SIN\{ACOS(Np/Dp)\} \times \{(1/Dp) \times (N-1) + 1/Np\}.$$

21. An recording head comprising:

a nozzle plate having nozzles for discharging ink droplets arranged in a row;

a plurality of pressure generating chambers communicating to the nozzles, the plurality of pressure generating chambers including a first pressure generating chamber and a second

pressure generating chamber;

a diaphragm formed on one face of the pressure generating chamber; and

a piezoelectric element for displacing the diaphragm;

wherein the first pressure generating chamber is disposed on one side of the nozzles arranged in the row, and a second pressure generating chamber is disposed on the other side; and

the first and second pressure generating chambers are opposed to each other across the nozzles arranged in the row so that the central lines of the first and second pressure generating chambers are almost coincident.